

CLAIMS

1           1.     A storage system, comprising:  
2           a storage mechanism for storing content;  
3           at least one local cache storage unit for mirroring at least a portion of the content stored  
4 on the storage mechanism;  
5           a write director coupled to the storage mechanism and to the at least one local storage  
6 cache for controlling content written into the storage mechanism and to the at least one local  
7 storage cache;  
8           a cache manager for managing content copying between the storage mechanism and the at  
9 least one local storage cache to maintain at least partial content coherency;  
10          a read director responsive to a request for content from a user for directing said content  
11 request to a selected one of the at least one local storage cache and the storage mechanism  
12 depending on content availability of each; and  
13          a storage mechanism access manager for monitoring read and write loading of the storage  
14 mechanism and for controlling the read and write directors and the cache manager in accordance  
15 with the storage mechanism read and write loading.

1           2.     The storage system of claim 1 wherein the cache manager manages the storage  
2 capacity of the local cache storage unit by successively deleting a least accessed file until the  
3 local cache storage unit has an available storage capacity above a prescribed level.

1           3.     The storage system of claim 1 further comprises a filler storage unit for storing  
2 filler content, and wherein the read director directs the read request to the filler storage unit to  
3 provide filler content when the requested content is unavailable from the storage mechanism and  
4 the local storage cache unit.

1           4.     The storage system of claim 1 wherein the storage mechanism further comprises  
2 at least one disk drive.

1           5.     The storage system of claim 1 wherein the storage mechanism further comprises  
2 at least one Redundant Array of Inexpensive Disk Drives (RAID).

1           6.     The storage system of claim 1 wherein the local cache storage unit further  
2 comprises at least one disk drive.

1           7.     The storage system of claim 1 wherein the local cache storage unit further  
2 comprises at least one Redundant Array of Inexpensive Disk Drives (RAID).

1           8.     The storage system according to claim 1 wherein the read director redirects a  
2 request for content to the local cache storage unit when the requested content is available thereat  
3 to reduce bandwidth requirements on the storage mechanism.

1           9.     The storage system according to claim 1 wherein the cache manager copies at  
2 least some content from the storage mechanism to the local cache storage unit previously  
3 unavailable on the local cache storage unit.

1           10.    The system according to claim 1 wherein the storage mechanism access manager  
2 controls the read and write directors to reduce reading from, and writing to the storage  
3 mechanism during intervals of limited storage mechanism bandwidth.

1           11.    A method for storing content, comprising the steps of:  
2 writing incoming content to at least one of a Storage Area Network (storage mechanism)  
3 and a local cache storage unit;  
4 monitoring content coherency between the storage mechanism and the local cache storage  
5 unit;  
6 copying content between the storage mechanism and the local cache storage unit in  
7 accordance with the content coherency therebetween  
8 directing a request for content from a user to a selected one of the storage mechanism and  
9 the local cache storage unit depending on the content availability of each,  
10 monitoring read and write loading of the storage mechanism; and  
11 controlling reading of content from, and writing of content to the storage mechanism in  
12 accordance with the storage mechanism read and write loading.

1           12.    The method according to claim 11 wherein the step of directing the content  
2 request further comprises re-directing the content request to the local cache storage unit if the  
3 requested content resides at the local cache storage unit.

1           13.    The method according to claim 11 wherein the step of directing the content  
2 request further comprises re-directing the content request to a filler storage unit to provide filler  
3 if the requested content neither resides at the local cache storage unit or at the storage  
4 mechanism.

1           14.    The method according to claim 13 further comprising the step of writing content  
2 from the storage mechanism to.

1           15.    The method according to claim 11 further comprising the step of writing content  
2 from the local cache storage unit to the storage mechanism.

1           16.    The method according to claim 11 wherein the step of controlling reading of  
2 content from, and writing of content to the storage mechanism further comprises the step of  
3 restricting access to the storage mechanism during intervals of high bandwidth demand.